

CLAIMS

- Sub B' 1. Process for coding images according too the MPEG standard, for the inseting of at least one imagette into an image, utilizing the inter mode (6, 7) with motion estimation (12) with respect to a reference image and the intra mode (7), characterized in that:
- an exclusion zone (4) which includes the macroblocks which lie even partially in the location of the imagette is defined in the reference image,
 - the motion estimation (12) of the macroblocks of the image not belonging to the exclusion zone does not take account of an image block belonging to the exclusion zone in the reference image.
 - macroblocks belonging to the exclusion zone of the image are replaced by macroblocks making up the imagette.
2. Process according to Claim 1, characterized in that the inter mode for the coding of the macroblocks of the image belonging to an exclusion zone (4) is an inter mode with null motion vectors.
3. Process according to Claim 1, characterized in that the intra mode is forced for the coding of the macroblocks of the image belonging to an exclusion zone (4).
4. Process according to Claim 1, characterized in that it carries out a marking (18,19) of the macroblocks of the reference image belonging to the exclusion zone.
5. Process according to Claim 4, characterized in that the marking consists in performing a transcoding (18) of the luminance values of the macroblocks by decrementing the values equal to the maximum coding value and then by forcing the luminance values of the macroblocks belonging to the exclusion zone to this maximum value.

6. Process according to Claim 1, characterized in that, for a given row of macroblocks, the coding (14, 16) allocates a specific slice for the macroblocks belonging to an exclusion zone.

5 7. Process for inserting an imagette into an image coded according to the process of Claim 3, characterized in that the macroblocks of an intra-coded slice are replaced by macroblocks relating to the imagette.

8. Process according to Claim 7, characterized in that the replacement consists of a recovery of the intra-coded macroblocks
10 corresponding to the exclusion zones, a baseband decoding of these macroblocks, a mixing with the imagette to be inset into the exclusion zone, a coding of the image obtained so as to provide the replacement macroblocks.

9. Process according to Claim 7, characterized in that the coding
15 adapts the quantization interval for the macroblocks belonging to the exclusion zone as a function of the cost of coding the macroblocks to be inserted.

10. Device for coding digital video data according to the MPEG
20 standard for the inseting of at least one imagette into an image, comprising a subtractor (6) receiving on a first input an intra macroblock and on a second input a predicted macroblock to be subtracted from the intra macroblock so as to provide an inter macroblock, a circuit (7) for selecting an inter or intra mode receiving the corresponding intra macroblock or inter macroblock for selecting one of the macroblocks according to an energy
25 criterion, a circuit (8) for transforming and quantizing the macroblock selected so as to provide a macroblock of quantized coefficients a circuit (13) for the variable-length coding of the macroblock of quantized coefficients and a buffer memory (14) for providing a data stream at the output of the coding device, an inverse quantization and inverse transformation circuit (9) for
30 obtaining a macroblock reconstituted from the macroblock of quantized coefficients an adder (10) of the reconstituted macroblock, a memory and

predictor (11) for storing the reconstructed macroblock and providing a reconstructed image, a motion estimator (12) receiving the intra macroblock and the reconstructed macroblocks so as to provide a motion vector (MV) for the memory and predictor so as to calculate the predicted block, a regulating circuit (15) receiving information from the buffer memory so as to set a quantization interval for the transform and quantization circuit (8), characterized in that::

- the selection circuit (7) and the motion estimation circuit (12) receive an information item pertaining to an exclusion zone (ZE) which includes the macroblocks lying, even partially, in the location of the imagette,
 - the selection circuit (7) forces the intra-coding of the macroblocks belonging to this exclusion zone,
 - the motion estimation circuit (12) calculates the motion vectors while eliminating the motion vectors pointing from the blocks of the reconstructed image belonging to the exclusion zone
- and in that it comprises a substitution circuit to substitute, in the data stream, macroblocks corresponding to the exclusion zone by macroblocks coding the imagette.

11. Device according to Claim 10, characterized in that the regulating circuit (15) receives the information item defining an exclusion zone so as to adapt the quantization interval of the transform and quantization circuit (8) for the macroblocks in this exclusion zone.